

## GTA401-B

### AC-DC Power Supply

(Document Rev A02 1/16/18)



### Single Phase 47- 440Hz 95/250Vac Input Dual Output, 200W Max Total

**Market:** Military, Industrial

**Application:** Electronic Equipment Rack

#### Features

- 95/250Vac input.
- Designed to meet portions of MIL-Std-704F\*
- Dual Output, 200W.
- Designed to meet portions of Mil-Std-810F environmental specs.\*
- Designed to meet portions of Mil-Std-461F EMI specifications.\*

\* Contact AEGIS Power Systems for specific details.

**Table 1: Maximum Ratings**

Parameter	Rating	Unit	Notes
Vin max range	95 to 250	Vac	
Temperature range	-40 to +85	°C	
Output power	200	W	
Input power	240	W	
+3.8Vdc output	100	W	
+5.6Vdc output	100	W	

#### Product Highlights

This chassis mounted filtered ac-dc power converter has Power Factor Correction. Factory configured outputs (+3.8Vdc, +5.6Vdc) with 200W max total combined output. This COTS solution works well for Mil-cots and is designed to meet portions of Mil-Std-704F input, MIL-STD-810F vibration and shock, and MIL-STD-461E EMI requirements.

**AEGIS Power Systems, Inc.** specializes in the front end design, development, and manufacture of Rapid Response Custom Switching Power Supplies for defense, industry, telecomm, aircraft, shipboard, rack mount, electric powered vehicle, and Mil-Cots military power supply applications. Contact Aegis for specific details on what can be designed for your particular military power supply application and what portions of a particular military standard can be offered for that power supply.

## **SPECIFICATIONS**

**(Typical at 25°C, nominal line and 100% load, unless otherwise specified.)**

<b>Input voltage:</b>	Normal 95VAC to 250VAC, 47Hz to 440Hz (Optimized for 400Hz) Transient 70VAC to 270VAC, 100 msec Mil-Std-704F Normal and abnormal range
<b>Input current:</b>	2.1A @ 115VAC.
<b>Input power:</b>	239W @ 115VAC.
<b>Power factor:</b>	0.97 typical 360-440Hz.
<b>Output power:</b>	200W Max. All outputs combined.
<b>Holdup time:</b>	18 msec typical.
<b>Output voltages:</b>	See table 2 for details. (Output returns are tied to Chassis GND)
<b>Efficiency:</b>	(82% @ 115VAC, 400Hz, full load.) (76% @ 115VAC, 60Hz, full load)
<b>Output ripple:</b>	See table 2 for details.
<b>Current Limit:</b>	Short circuit protected with automatic recovery.
<b>Start up time:</b>	500 millisecond Max.
<b>Voltage set point:</b>	± 2%.
<b>Line regulation:</b>	± 2%.
<b>Load regulation:</b>	± 2%.
<b>Temperature regulation:</b>	± 0.02% / °C.
<b>Temperature:</b>	-40°C to +85°C Operating. -20°C to +120°C Non-Operating.
<b>Cooling:</b>	Customer provided forced fan cooling across attached Heatsink.
<b>Package:</b>	Chassis mounted enclosed metal case.
<b>Dimensions:</b>	9" x 5" x 1.5" see mech dwg.
<b>Weight:</b>	2.45 lbs. Typical.
<b>Connector:</b>	Molex Minifit Jr. 39-30-0040 (Input Power) Molex Minifit Jr. 39-30-0120 (Output Power)
<b>Vibration:</b>	MIL-STD-810F, Method 514.5, Procedure 1
<b>Shock:</b>	MIL-STD-810F, Method 514.5, Procedure 1
<b>Humidity:</b>	0 – 95% non-condensing.
<b>EMI:</b>	Mil-Std-461F, CE102, CS101

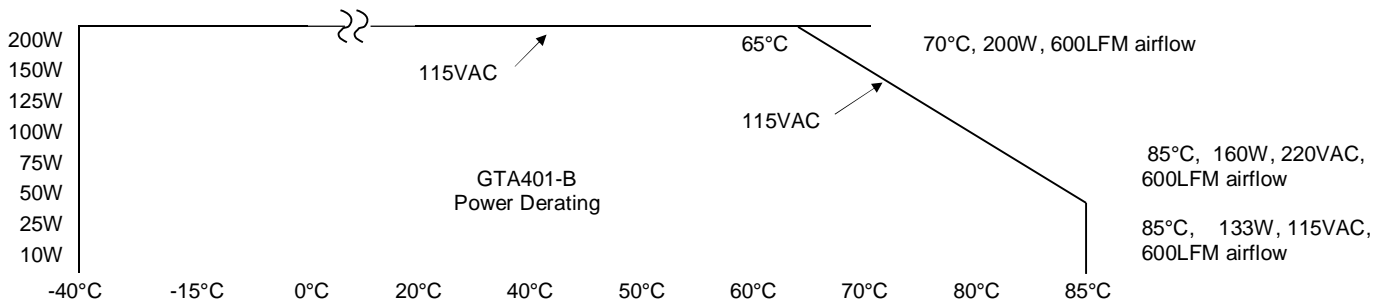
**Table 2: Voltage Outputs**

<b>GTA401-B</b>	<b>V1</b>	<b>V2</b>
Voltage	+3.8Vdc	+5.6Vdc
Current	26.8A	17.3A
Power	100W	100W
Ripple	20mVpk-pk <sup>1</sup>	25mVpk-pk <sup>1</sup>
Maximum total output power is 200W (all DC outputs combined).		

1. Ripple voltage is millivolts pk-pk measured with 20MHz BW limit scope.

**Figure 1: Power Derating for Temperature and Input Voltage**

**Power Derating for Temperature and Input Voltage per below Graph**

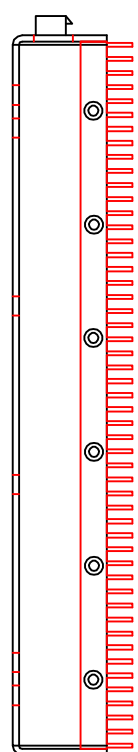
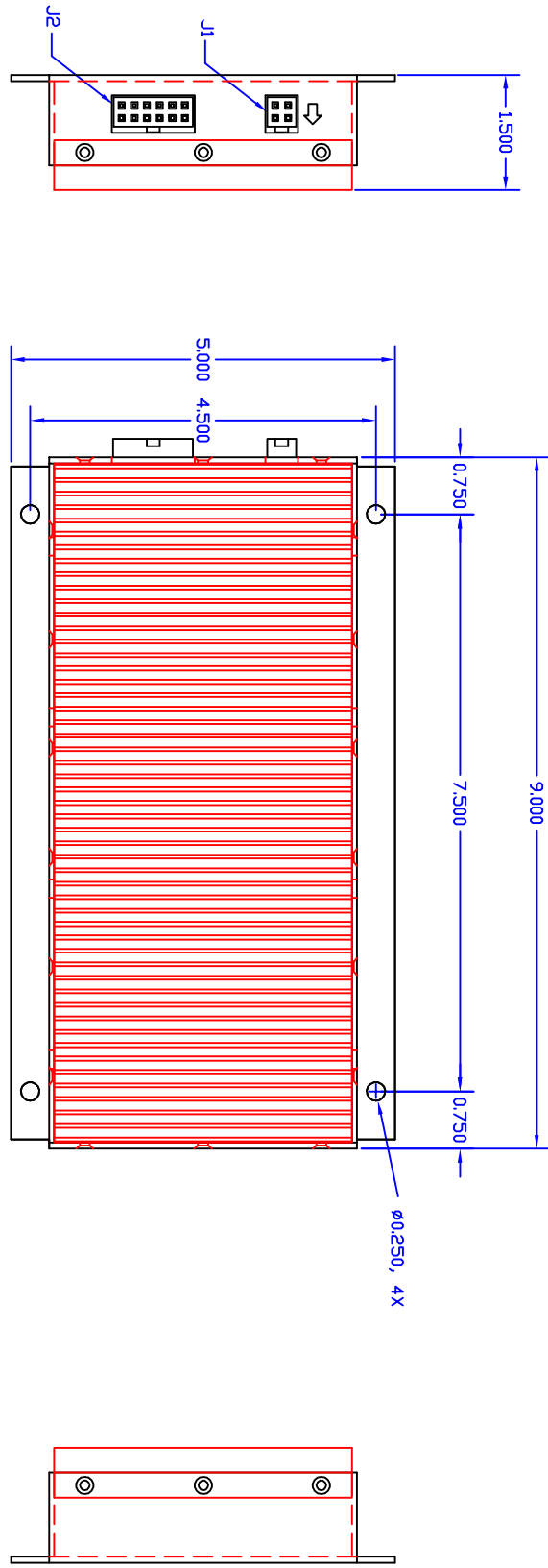


**Forced Air Cooling 600LFM**

- NOTES: UNLESS OTHERWISE SPECIFIED
1. INTERPRET DIMENSIONS AND TOLERANCES PER ANSI Y14.5M-1994.
  2. MATERIAL: ALUMINUM ALDY
  3. FINISH: CHEMICAL FILM PER MIL-DTL-5541F, CLASS 3, TYPE II, COLOR CLEAR

ZONE	REV	DESCRIPTION	DATE	APPROVED
A01		Initial Release	8/3/16	TLD

CAD MAINTAINED. CHANGES SHALL BE INCORPORATED BY THE DESIGN ACTIVITY.



NOTE: MIN 600 LFM EXPECTED AT MAX LOAD

MINI-FIT JR. 39-30-0040

CONNECTION	FUNCTION
J1:1	SPARE
J1:4	NEUTRAL
J1:2	CHASSIS GND
J1:3	LINE

MINI-FIT JR. 39-30-0120

CONNECTION	FUNCTION
J2:1	3.8V RETURN
J2:7	3.8V
J2:2	3.8V RETURN
J2:8	3.8V
J2:3	3.8V RETURN
J2:9	3.8V
J2:4	5.6V SENSE
J2:10	5.6V SENSE RTN
J2:5	5.6V RETURN
J2:11	5.6V
J2:6	5.6V RETURN
J2:12	5.6V

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AEGIS POWER SYSTEMS  
MURPHY, NORTH CAROLINA

APPROVALS	DATE	TITLE
DRAWN	6/11/14	GTA401-B OUTLINE
CHECKED		
PROJ. ENG.		
WFG		
QUALITY		

UNLESS OTHERWISE SPECIFIED, DIMENSIONS IN INCHES FRACTIONS DECIMALS ANGLES DEGREES  
\* N/A    \*\* \* .02    \* 5  
XXX \* .005

SEE NOTE 2

FINISH SEE NOTE 3

DO NOT SCALE DRAWING

CONTRACT NO.

SIZE FSCM NO. DTA401-B  
D 06ES8

DWG NO. GTA401-B-M00

SCALE 1/1

SHEET 1 OF 1